

Claims

1. A food package for pasta, comprising:  
a soft bag (2) containing a determined quantity of pasta (3) and having a weakened area (5) for opening said bag (2);  
5 characterised in that said weakened area (5) has at least a pre-cut line (6) associated to means (7) for breaking the bag (2) at said pre-cut line (6).
2. A package as claimed in claim 1 characterised in that the means (7) for breaking the bag (2) comprise a tear-out band (8).
3. A package as claimed in claim 2 characterised in that the tear-out band (8) is  
10 positioned along the development of said at least one pre-cut line (6).
4. A package as claimed in claim 2 characterised in that it comprises two pre-cut lines (6) and in that the tear-out band (8) is positioned between said two lines (6).
5. A package as claimed in claim 2 characterised in that the tear-out band (8) is glued on the bag (2).
- 15 6. A package as claimed in claim 2 characterised in that the tear-out band (8) is sealed on the bag (2).
7. A package as claimed in claim 2 characterised in that the bag (2) has tubular shape, closed at the ends (4a, 4b) and in that the weakened area (5) is positioned at one of said ends (4a, 4b).
- 20 8. A package as claimed in claim 7 characterised in that a first end (4a) of said ends (4a, 4b) has planar shape defined by the association of two opposite portions (10a, 10b) of the tubular bag (2); said at least one pre-cut line (6) being positioned on the first end (4a); the tear-out band (8) being positioned along the development of said at least one pre-cut line (6).
- 25 9. A package as claimed in claim 8 characterised in that it comprises two pre-cut lines (6) and in that the tear-out band (8) is positioned between said two lines (6).
10. A package as claimed in claim 7 characterised in that said at least one pre-cut line (6) extends around the tubular bag (2) to define a closed path.
11. A package as claimed in claim 7 characterised in that said at least one pre-cut line  
30 (6) extends only partially around the tubular bag (2).

12. A package as claimed in claim 8 characterised in that said at least a pre-cut line (6) extends on one of said two opposite portions (10a; 10b) of the tubular bag (2).

13. A package as claimed in claim 8 characterised in that said at least one pre-cut line (6) extends on both said two opposite portions (10a, 10b) of the tubular bag (2), to  
5 define a closed path.

14. A method for manufacturing food packages for pasta, comprising the steps of:  
feeding a continuous strip (13) along a predetermined path of advance (P);  
winding a portion of the continuous strip (13) on itself to form a tubular bag (2);  
separating the tubular bag (2) from the continuous strip (13);

10 closing at least one of the two ends (4b; 4a) of the tubular bag (2) to form a container;  
filling the container with a determined quantity of pasta (Q);  
closing the other of said ends (4a; 4b);

characterised in that it also comprises the steps of:

providing at least a pre-cut line (6) on said package (1); and

15 associating to the package (1) means (7) for breaking the bag (2) at said pre-cut line (6).

15. A method as claimed in claim 14, characterised in that the pre-cut line (6) is provided on the continuous strip (13) before the winding step.

16. A method as claimed in claim 14, characterised in that the means (7) for breaking the bag (2) are associated to the continuous strip (13) before the winding step.

20 17. A method as claimed in claim 14, characterised in that the step of providing at least a pre-cut line (6) is effected simultaneously with the step of associating the means (7) for breaking the bag (2).

18. A method as claimed in claim 15, characterised in that the step of providing at least a pre-cut line (6) is effected by obtaining a pre-cut on the strip (13) that is transverse to  
25 the predetermined path of advance (P).

19. A method as claimed in claim 16, characterised in that the step of associating to the package (1) means (7) for breaking the bag (2) is effected applying to the continuous strip (13) a tear-out band (8) transversely relative to the predetermined path of advance (P).

20. A method as claimed in claim 19, characterised in that the step of applying to the continuous strip (13) the tear-out band (8) comprises the sub-steps of:

advancing a small strip (9) along a predetermined direction of feeding (A9 transverse to the path of advance of the strip (P);

5 associating the small strip (9) to the strip (13);

joining the small strip (9) to the strip (13);

cutting the small strip (9) to define the band (8).

21. A machine for manufacturing food packages for pasta, comprising:

10 means (14) for advancing a continuous strip (13) along a predetermined path of advance (P);

means (15) for winding a portion of the continuous strip (13) on itself to form a tubular bag (2);

means for separating the tubular bag (2) from the continuous strip (13);

15 means for closing at least one of the two ends (4a; 4b) of the tubular bag (2), to form a container;

means for filling the container with a determined quantity of pasta (Q); and

means for closing the other of said ends (4b; 4a);

20 characterised in that it further comprises a work station (16) positioned along the predetermined path of advance (P), to obtain at least a pre-cut line (6) on said package (1) and to apply means (7) for the breakage of the bag (2) at said pre-cut line (6).

22. A machine as claimed in claim 21, characterised in that the work station (16) comprises:

25 means (17) for advancing a small strip (9) along a predetermined direction of feeding (A); said predetermined direction of feeding (A) being transverse to the path of advance (P) of the strip (13) and tangential to said path (P) in a predetermined work area (Z);

a support assembly (30) for the strip (9) in said predetermined work area (Z);

a pre-cutting assembly (40) operatively active on the strip (13) in said predetermined work area (Z), to obtain said at least one pre-cut line (6);

30 a presser assembly (36) of the strip (13) and of the small strip (9) against the support assembly (30), to join the small strip (9) to the strip (13); and

means (39) for cutting the small strip (9), operative in the predetermined work area (Z), to form a tear-out band (8) on said strip (13) defining said means (7) for breaking the bag (2).

23. A machine as claimed in claim 22, characterised in that the means (17) for  
5 advancing the small strip (9) comprise:

a reel holder (19) whereon is wound the strip (9);

a plurality of pulleys (20) arranged in series to the reel holder (19) along the direction of feeding (A) of the small strip (9);

at least a drive wheel (21);

10 a motor (22) connected to the drive wheel (21); and an assembly (23) for tensioning the small strip (9), mounted in series to the reel holder (19) along the predetermined direction of feeding (A);

the means (17) for advancing the small strip (9) having a vertical support frame (19), the reel holder (19), the pulleys (20), said at least one drive wheel (21) and the tensioning  
15 assembly (23) being mounted in overhang on said frame (18).

24. A machine as claimed in claim 23, characterised in that the means (17) for advancing the small strip (9) comprise two opposite and counter-rotating drive wheels (21) between which passes the small strip (9); and

20 elastic means (24) for holding the two drive wheels (21) always in contact with each other and prevent the sliding of the interposed small strip (9);

said two opposite and counter-rotating drive wheels being also movable between a position of mutual approach and a position of mutual separation, to allow the insertion of the small strip (9).

25. A machine as claimed in claim 23, characterised in that the tensioning assembly  
25 (23) has:

a lever (25) hinged on the frame (18) and a plurality of tensioning pulleys (26) rotatably mounted on said lever (25); the lever (25) being movable between an idle machine position, in which it activates a reel brake (27) to stop the unwinding of the reel, and a working position, in which it determines the release of the reel brake (27); and

a proximity sensor (28) operatively connected to the reel brake (27); said sensor (28) detecting the presence of the lever (25) in the working position, to deactivate the reel brake (27).

26. A machine as claimed in claim 23, characterised in that the means (17) for  
5 advancing the small strip (9) further comprise a photocell sensor (29) to signal the presence of the small strip (9) in proximity to said at least drive wheel (21).

27. A machine as claimed in claim 24, characterised in that the support assembly (309) comprises a belt (31) wound on pulleys (32) and having an active branch (33) aligned and tangential to the direction of feeding (A) of the small strip (9); the belt (31) being  
10 provided with openings (34) in communication with a vacuum chamber (35), to hold the strip (9) on the active branch (33); the active branch (33) of the belt (31) have a velocity of advance (V1) exceeding the peripheral velocity (V2) of the drive wheels (21).

28. A machine as claimed in claim 22, characterised in that the presser element (37) has a sealing device (38), to seal the small strip (9) on the strip (13).

15 29. A machine as claimed in claim 22, characterised in that the small strip (9) has an adhesive surface; the presser assembly (36) determining the union of the adhesive surface of the small strip (9) to the strip (13).

30. A machine as claimed in claim 22, characterised in that the pre-cutting assembly (40) comprises at least a cutter (41) orthogonal to the direction of advance (P) of the  
20 strip and movable between a position of separation from the support assembly (30) and a position of approach to the support assembly (30), to obtain the pre-cut line (6) on the strip (13);

the presser assembly (36) being set side by side and integral with the pre-cutting assembly (40) in the movement of approach to the support assembly (30) and of  
25 separation from the support assembly (30).